[Claims]

[Claim 1] A fuel battery made by piling up a plural number of generating structures each made up of a generating section of a thin plate shape made by joining gas diffusion electrodes to both surfaces of an electrolyte layer, and an insulating spacer surrounding the perimetric edge of the generating section, and

separators, each formed in its center with a gas supply section having a contact section for contacting the generating section and a gas flow groove, to be placed over the generating structure so that the gas supply section faces the generating section,

wherein the generating section is of a square shape,

the spacer is formed in its center with a square containing opening for containing the generating section in alignment,

upside and underside of the perimeter of the containing opening are each formed with an attachment seat for the separator to be attached to,

wide vent openings are formed in four positions opposing respective side edges of the containing opening,

the portion between each vent opening and each side edge of the containing opening is formed with vent step grooves for passing gas and fit step grooves to be closed with the separator in pairs on upside and underside and, as for the same surface, placed by turns along the perimetric direction of the containing opening,

the separator is made of metallic sheet with its central upside and underside formed with square gas supply sections to be attached with its upside and underside perimetric edges in contact to the attachment seat,

with its perimetric section formed with four wide vent holes respectively conforming to the vent openings of the spacer in the direction of piling up,

a raised portion raised on either one side for fitting into the fit step groove is formed between each side edge of the gas supply section and each vent hole, and in each raised portion is formed a communication groove communicating with the vent hole and the gas supply section along planar direction, and joining with the vent step groove of the spacer.

[Claim 2] The fuel battery of Claim 1, wherein the gas supply sections

on both surfaces of the separator are each constituted with a plural number of projections projecting on both surface sides and having contact portions near the peaks for contacting the generating section, and mesh-like gas flow grooves formed among the peaks of the projections.

[Claim 3] The fuel battery of Claim 1 or 2, further comprising a support member placed in the width direction inside the mutually joined vent step groove and communication groove to bring the inside end on the vent step groove side into contact with the end portion of the generating section in the thickness direction.